



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,905	03/31/2004	Wen-Jian Lin	QCO.094A/061113	9293
59747 7590 10/31/2007 KNOBBE, MARTENS, OLSON & BEAR, LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			EXAMINER TRAN, HOANG Q	
			ART UNIT 2874	PAPER NUMBER
			MAIL DATE 10/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/815,905	Applicant(s) LIN ET AL.	
	Examiner Hoang Tran <i>HT</i>	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 20-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 20-21, 23 and 26-28 rejected under 35 U.S.C. 102 (e) as being anticipated by Pei ET al. (US 2004/0263028 A1).

In terms of claim 20, Pei discloses an interferometer modulation pixel comprising a first electrode (Fig. 2, '294'), a movable second electrode (293) being situated above the first electrode and being parallel to the first electrode; two supports (291, 292) between the first electrode and the second electrode to form a cavity between the first and second electrodes (294, 293); and Pei teaches a hydrophobic are being used on a cavity-side surface of the first electrode (Para [172 and 173]) in this instant the hydrophobic layer will be use on electrodes 294 and 293.

As to claim 21, the hydrophobic layer comprises a hydrophobic organic compound having at least a hydrogen atom being capable of forming hydrogen bonds with oxygen or nitrogen atoms (Para [0195]).

As to claim 23, the first electrode comprises an insulating layer (Para [0064]).

As to claim 26-28, the first electrode comprises a transparent conductive layer, a light-absorption layer, and an insulating layer (Para [0187]), and wherein the movable second electrode is a light-reflection electrode (Para [0187]) having a hydrophobic layer prevents the first electrode from adsorbing water molecules (Para [0195]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22, 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pei et al. (US 2004/0263028 A1) in view of Peterson et al. (US 6,335,224 B1).

Regarding claim 22, 24-25, Pei discloses the invention of claim 20, however, Pei does not explicitly disclose the molecular compound of the hydrophobic organic compound comprises silanes including hexamethyl disilane. Peterson discloses in the Abstract that the microelectronic device is protected by a water adsorption resistant coating that can be chosen from a list of compounds including hexamethyl disilane for the compound exhibit the desired property of resistant to water adsorption. Furthermore, Peterson discloses the insulating layer comprises silicon nitride and the hydrophobic layer is positioned on the insulating layer (Fig. 2B '26'). It would have been obvious to one having ordinary skill in the art to recognize the teaching of Peterson would be applicable to the art of Pei in modifying Pei's prior art. The motivation for

using the compounds as claimed is obvious to one having ordinary skill in the art for it's property of resisting water adsorption and is clearly taught in Peterson's prior art that such material is used to collectively package and protect the microelectronic devices.

Response to Arguments

Applicant's arguments, see remarks section, filed 08/09/2007 with respect to the rejection(s) of claim(s) 20 under 35 USC 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of another embodiment to the prior art to Pei. In Figure 2M Pei teaches a pair of electrodes [293] and [294] wherein two support polymers are being placed in the middle of the electrodes. A cavity exists between the two supports [291] and [295] wherein Paragraph [0172] teaches the use of hydrophobic materials use in complaint electrodes. Therefore new grounds of rejection has been established in view of the embodiment Figure 2M to the prior art of Pei.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang Tran whose telephone number is 571-272-5049. The examiner can normally be reached on 9:00AM - 5:00 PM.


Application/Control Number:
10/815,905
Art Unit: 2874

Page 5

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ht

Hoang Tran
AU 2874
October 29, 2007


MICHELLE CONNELLY-CUSHWA
PRIMARY EXAMINER
10/29/07